of easily holding a knot and being easily tied and untied. Webbing used as reinforcing tape must be smooth enough to prevent chafing the wearer.

(g) *Closures*—(1) *Strength*. Each closure such as a buckle, snap hook and dee ring, or other type of fastening must comply with UL 1517, section 4.1. The width of each closure opening through which body strap webbing passes must be the same as the width of that webbing.

(2) *Means of Locking*. Each closure used to secure a PFD to the body, except a zipper, must have a quick and positive means of locking, such as a snap hook and dee ring.

(3) *Zipper*. If a zipper is used to secure a PFD to the wearer it must be—

(i) Easily initiated;

(ii) Non-jamming;

(iii) Right handed; and

(iv) Of a locking type.

(h) *Inflation medium*. If a hybrid PFD has an automatic or manual inflation mechanism—

(1) The inflation medium must not contain or produce compounds more toxic than CO_2 in sufficient quantity to cause an adverse reaction if inhaled through any of its oral inflation mechanisms; and

(2) Any chemical reaction during inflation must not leave a toxic residue.

(i) [Reserved]

(j) *Kapok pad covering*. If kapok flotation material is used, pad covering that meets §160.047–3(e) of this chapter must be provided to enclose the material in at least three separate pads.

[CGD 78–174, 50 FR 33928, Aug. 22, 1985, as amended by CGD 84–068, 58 FR 29494, May 20, 1993; CGD 78–174, 60 FR 2486, Jan. 9, 1995; USCG–2000–7790, 65 FR 58463, Sept. 29, 2000]

§160.077–13 Materials—Type I and Commercial Hybrid PFD.

(a) *General*. All commercial hybrid PFD materials must meet §160.077–11 and this section.

(b) *Closures*. Each closure other than a zipper must have a minimum breaking strength of 1000 N (225 lbs). If a zipper is used to secure the PFD to the body, it must be used in combination with another closure that has a quick and positive means of locking.

(c) *Retroreflective Material*. Each PFD must have at least 200 sq. cm. (31 sq. in.) of retroreflective material on its front side, at least 200 sq. cm. on its back side and at least 200 sq. cm. of material on each reversible side, if any. The material must be Type I material that is approved under Subpart 164.018 of this chapter. The material attached on each side must be divided equally between the upper quadrants of the side. The material, as attached, must not impair PFD performance.

[CGD 78–174, 50 FR 33928, Aug. 22, 1985, as amended by CGD 78–174, 60 FR 2487, Jan. 9, 1995]

§160.077–15 Construction and Performance—Recreational Hybrid PFD.

(a) *Performance*. (1) Each recreational hybrid PFD must be able to pass the tests in §160.077–19.

(2) Each recreational hybrid PFD must—

(i) If second stage donning is required, have an obvious method for doing it;

(ii) If it is to be marked as Type II or Type V providing Type I or II performance, not require second stage donning to achieve that performance;

(iii) Be capable of being worn while inflated at 60 N (13 lb.) of buoyancy without significantly changing its appearance from, or making it significantly less comfortable than, the uninflated condition;

(iv) Not cause significant discomfort to the wearer during and after inflation; and

(v) If it has a manual or automatic inflation mechanism and can be put on inside out, not restrict breathing when donned inside out, adjusted to fit, and inflated.

(b) *Construction; General*. Each recreational hybrid PFD must—

(1) Have one or more inflation chambers;

(2) Have at least one oral means of inflation on each inflation chamber;

(3) Have at least one automatic inflation mechanism that inflates at least one chamber, if marked as providing Type I or II performance;

(4) Be constructed so that the intended method of donning is obvious to an untrained wearer;

(5) Not have a channel that can direct water to the wearer's face to any